3 (previously presented). A method according to claim 2 wherein said welding is effected using a welding torch.

4 (previously presented). A method according to claim 3 wherein said welding torch travels at a speed in excess of 10 inches per minute.

5 (previously presented). A method according to claim 3 wherein said welding torch travels at a speed of 15 to 30 inches per minute.

6 (previously presented). A method according to claim 1 wherein said heat input is less than 1.5 kJoules per cm.

7 (previously presented). A method according to claim 6 wherein said heat input is in the range of 0.5 to 1.0 kJoules per cm.

8 (previously presented). A method according to claim 1 wherein said welding is carried out using a filler material.

9 (previously presented). A method according to claim 8 wherein said filler material comprises a noble metal.

10 (previously presented). A method according to claim 9 wherein said noble metal is selected from the group consisting of palladium, platinum, rhodium and combinations thereof.

11 (previously presented). A method according to claim 9 wherein said noble metal is present in said filler material in an amount of 1% by weight or less.

12 (previously presented). A method according to claim 9 wherein said noble metal is present in said filler material an amount of about 0.25 to 0.75 % by weight.

13 (previously presented). A method according to claim 1 wherein said welding is carried out over a period of time such that such that the metal temperature during weld cooling is insufficient to allow carbide formation on grain boundaries.

14 (previously presented). A method according to claim 1 wherein said welding is carried out over a period of time in the sensitizing range such that such that the metal temperature during weld cooling is insufficient to allow carbide formation on grain boundaries.

15 (previously presented). A method according to claim 1 wherein said welding is carried out over a period of time to form a fine microstructure of Delta Ferrite.

16 (currently amended). A method of joining a near surface of a first metal to a surface of a second metal at a region susceptible to stress corrosion cracking, comprising welding said first metal to said second metal under conditions of low heat input to achieve reduced residual stress on said surface and near surface, wherein said first metal is corrosion resistant cladding and said second metal is a component of a nuclear reactor.

17 (previously amended). A method according to claim 16, wherein said first metal has a far surface which is water cooled.

18 (previously amended). A method according to claim 16, wherein said first metal has a far surface which is air cooled.

19 (previously amended). A method according to claim 16, wherein said first metal has a far surface which exhibits reduced residual stress.

20 (previously amended). A method according to claim 16, wherein said first metal has a near surface which exhibits reduced residual stress.

21 (previously amended). A method according to claim 16, wherein said first metal is adjacent to a near surface of said second metal.

22 (previously amended). A method according to claim 16, wherein said second metal is adjacent to a near surface of said first metal.